

Hammond Street at Woodland Road Intersection Improvement Study



Town of Brookline Transportation Division

November 9, 2016

AGENDA

- Study Area
- Project Need
- Traffic Data
- Alternatives Considered
- Preferred Alternative
- Woodland Road Traffic Calming

STUDY AREA



PROJECT NEED

- Long delays on Woodland Road approach
- High speeds on Hammond Street
- Poor sight distance
- Excess pavement, long crosswalks
- School traffic
- Cut through traffic
- Brookline Green Routes – High Priority Corridor



TRAFFIC VOLUMES

➤ Average Daily Traffic



TRAFFIC VOLUMES

- Peak Hour Traffic
Morning (Evening)



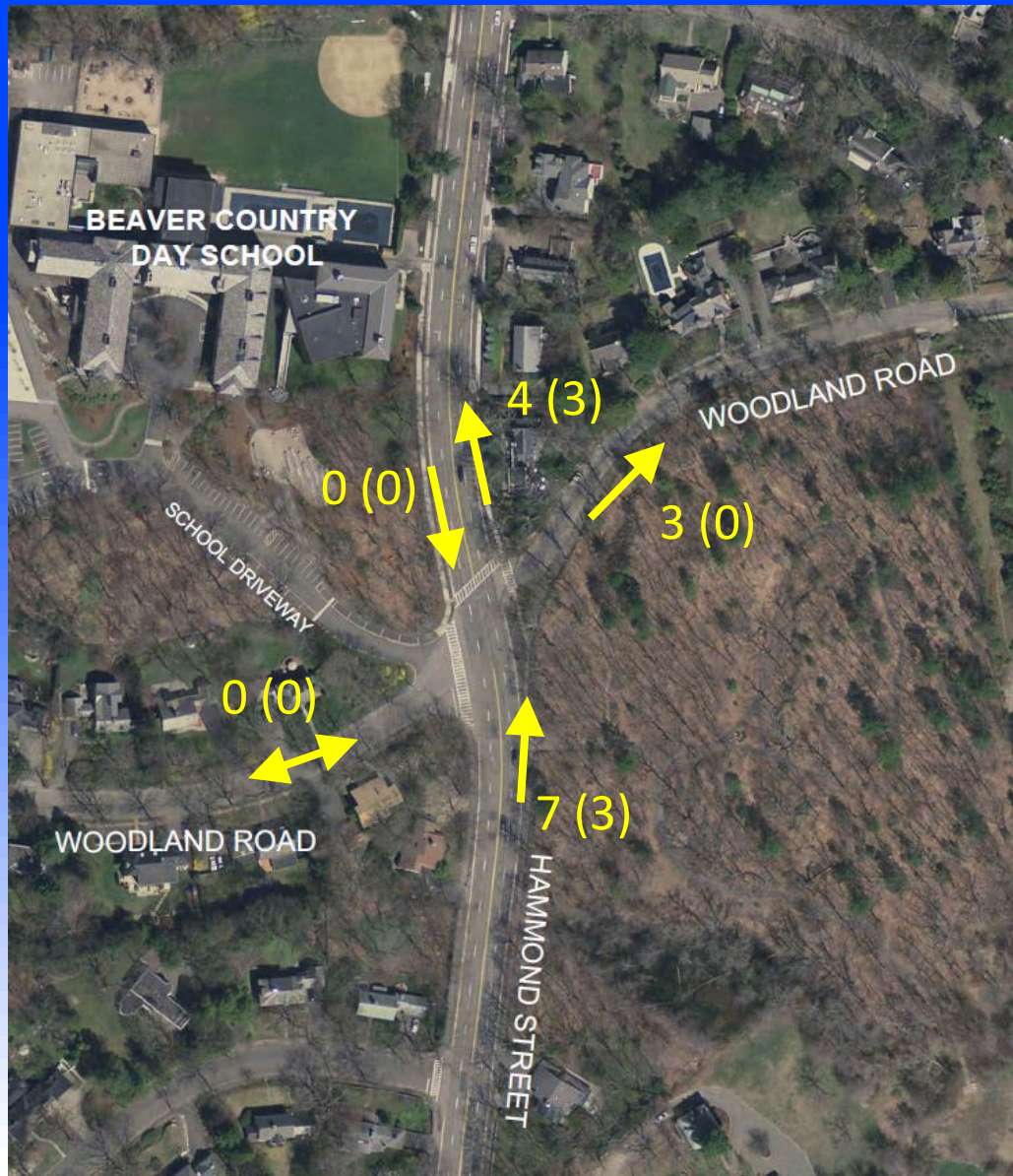
PEDESTRIAN VOLUMES

- Peak Hour Pedestrian Volumes
Morning (Evening)



BICYCLE VOLUMES

- Peak Hour Bicycle Volumes
Morning (Evening)



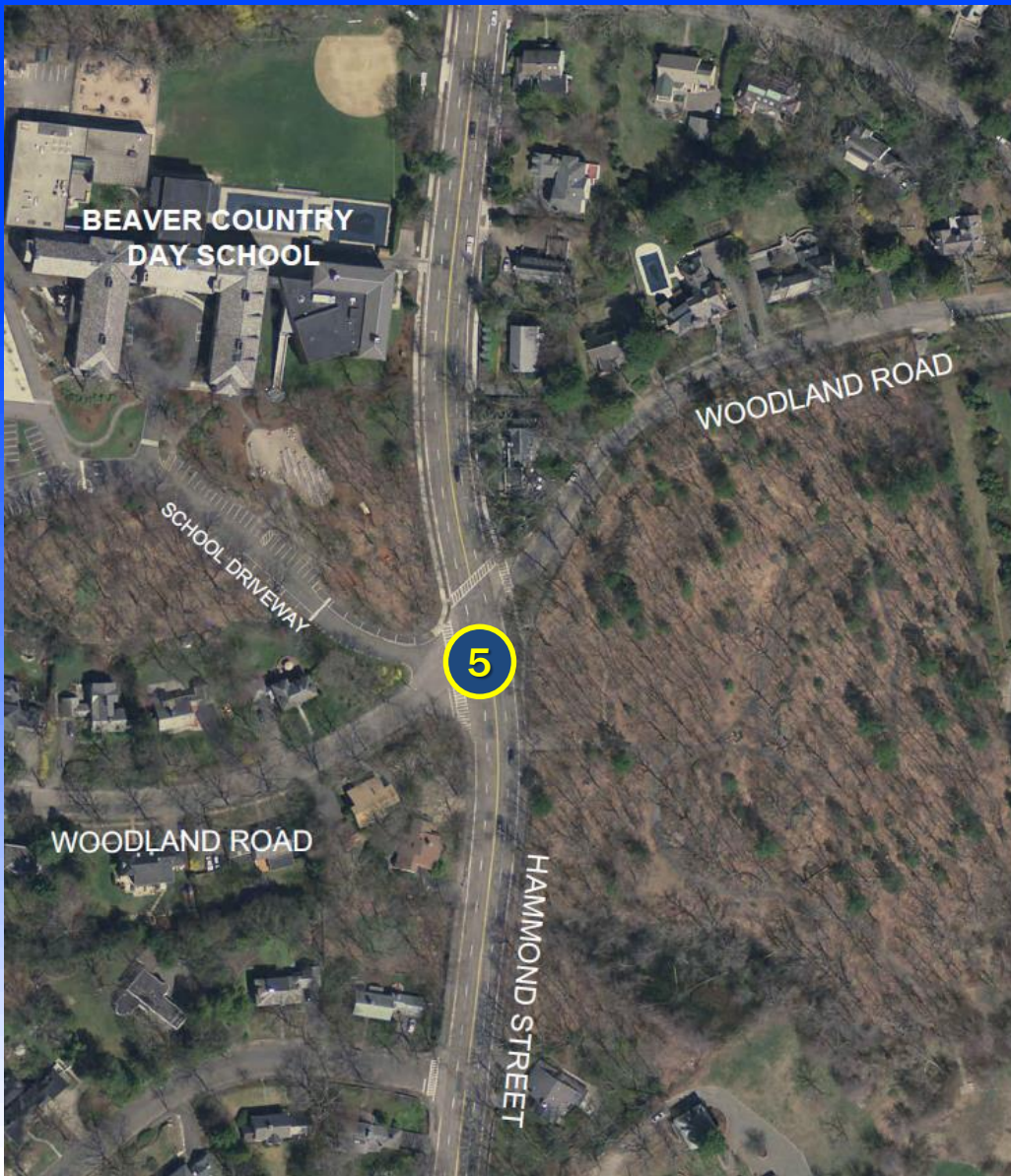
VEHICLE SPEEDS

➤ 85th Percentile Speed (mph)



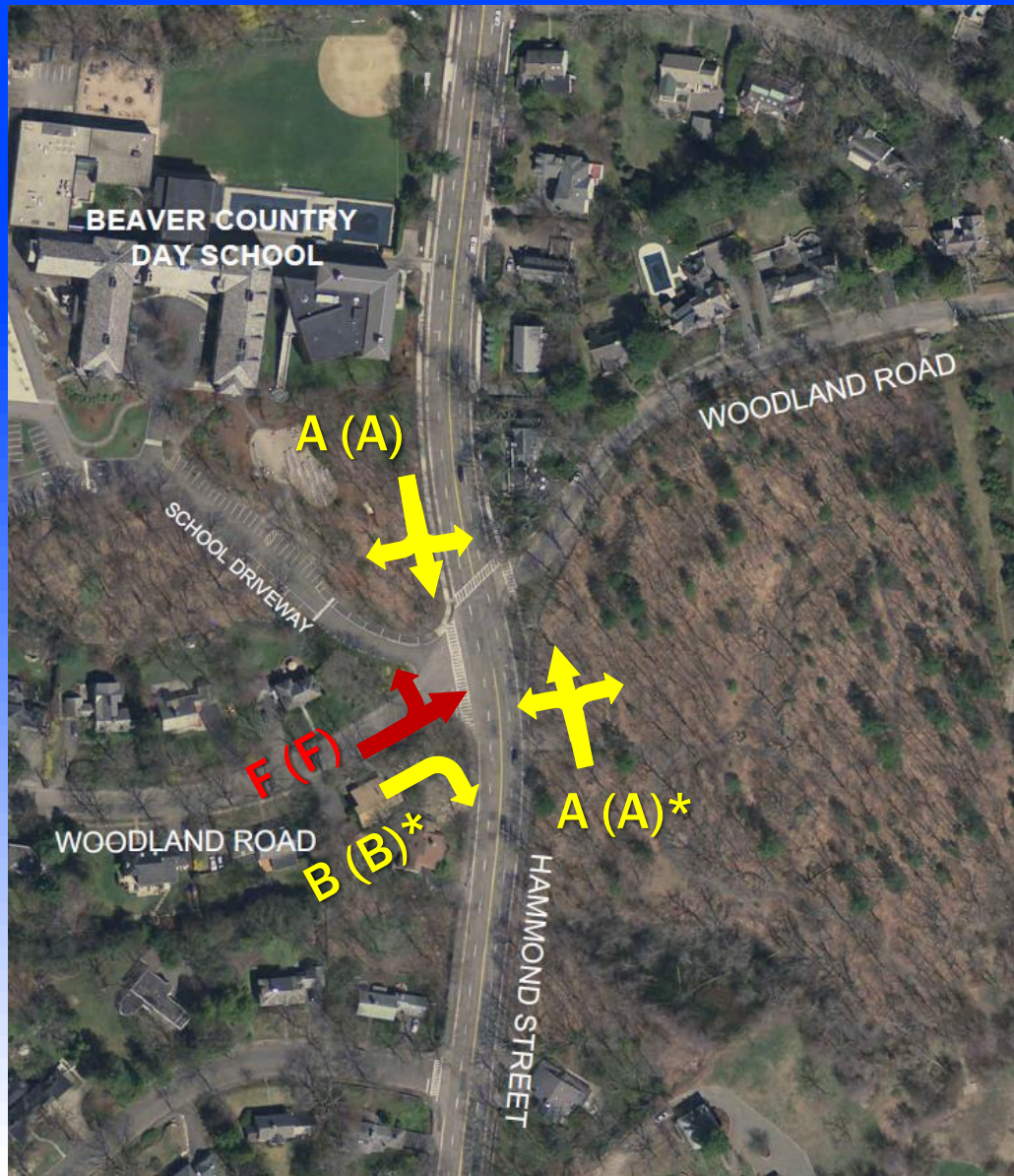
CRASH HISTORY

- Total crashes, 2009-2013
- One injury crash
- No pedestrian crashes
- One bicycle crash



TRAFFIC OPERATIONS

- Morning (Evening) Peak Hour Level of Service (LOS)
- *Northbound left lane & eastbound approach blocked by school traffic in AM



GOALS

- Reduce delays & queuing along Woodland Road
- Improve safety for pedestrians
- Improve sight distance
- Provisions for future bicycle accommodations
- Avoid impacts to school queuing & parking

ALTERNATIVES CONSIDERED

- Unsignalized with geometric improvements
- Signalized with geometric improvements
- Unsignalized with Road Diet
- Signalized with Road Diet
- Roundabout

➤ **Warrant 1A - Eight Hour Volume, Minimum Vehicular Volume**

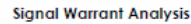


WARRANT NOT MET

85th percentile speed of major street traffic exceeds 40 mph (Y/N): **y**

Total hours met: **7**

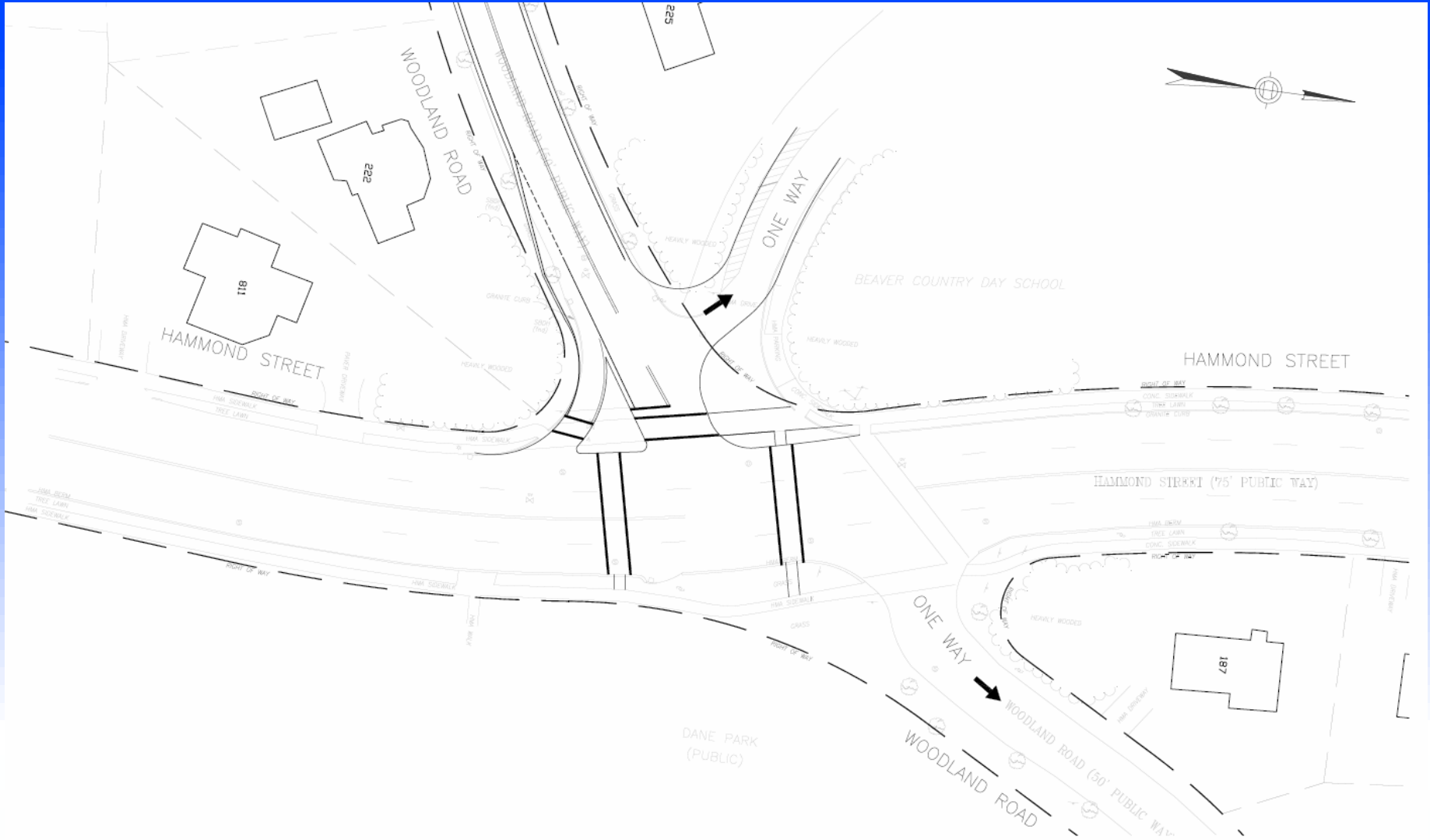
➤ **Warrant 1B - Eight Hour Volume, Interruption of Continuous Traffic**



WARRANT MET

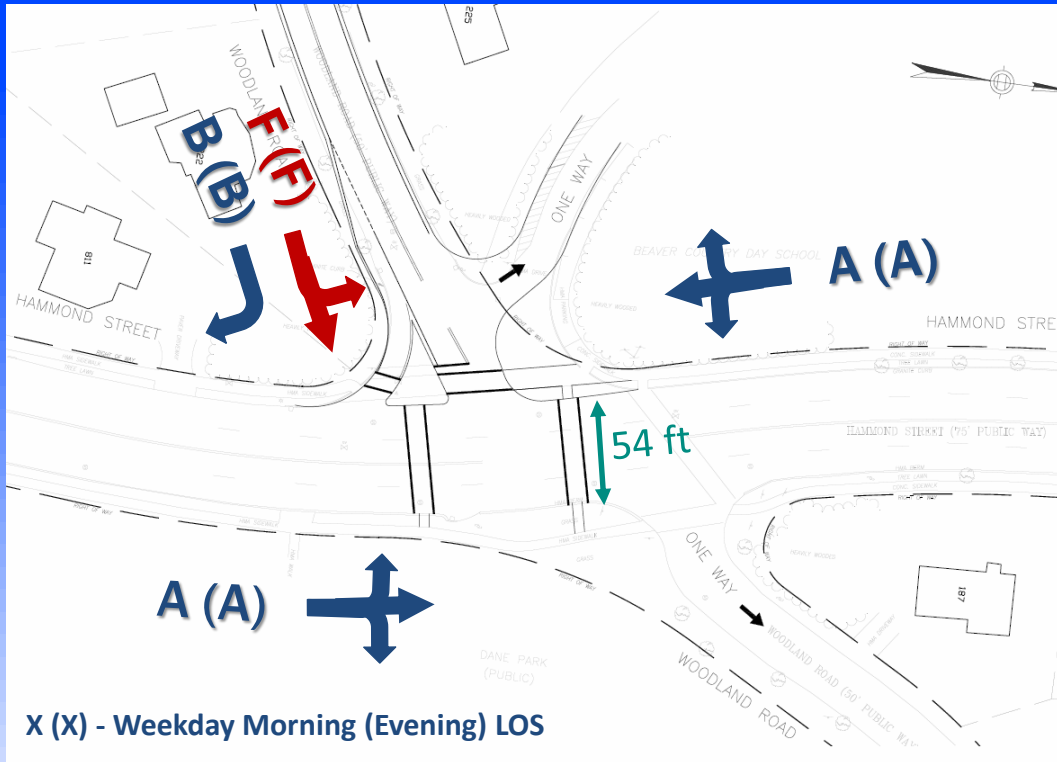
ALTERNATIVES CONSIDERED

- Unsignalized with geometric improvements



ALTERNATIVES CONSIDERED

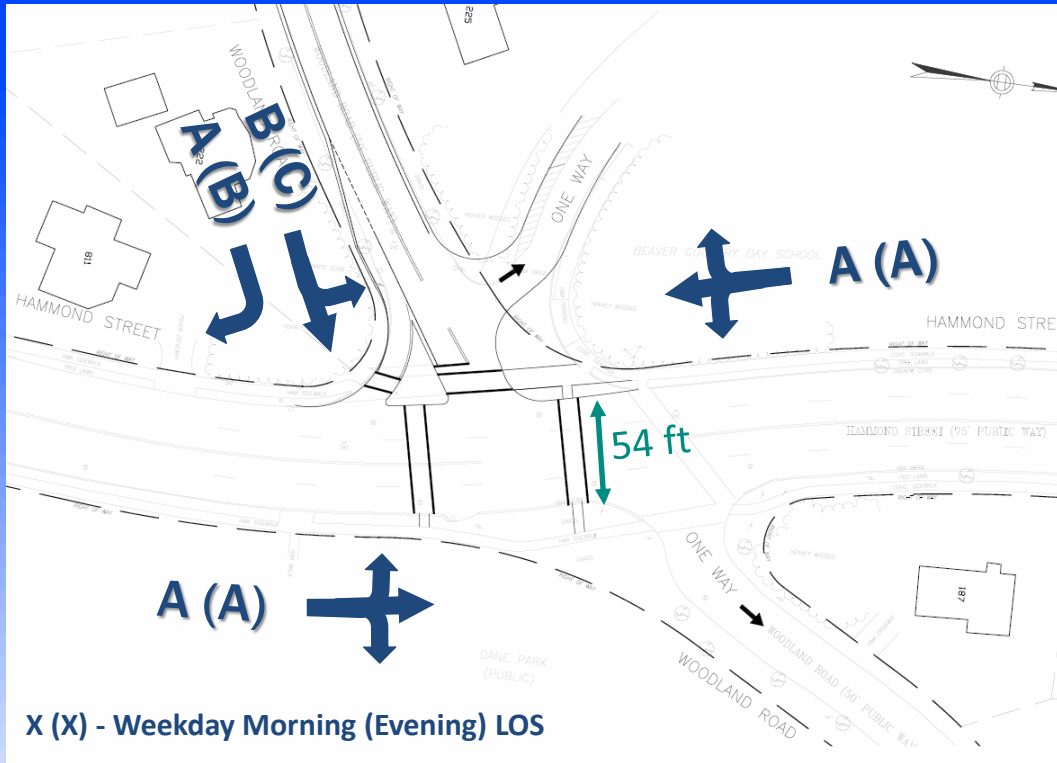
➤ Unsignalized with geometric improvements



- Improves Sight Distance
- Shortens Crossing Distances
- Additional Crosswalk
- Removes school driveway from intersection
- No operational improvement
- No provision for bicycles
- No queue space for school traffic

ALTERNATIVES CONSIDERED

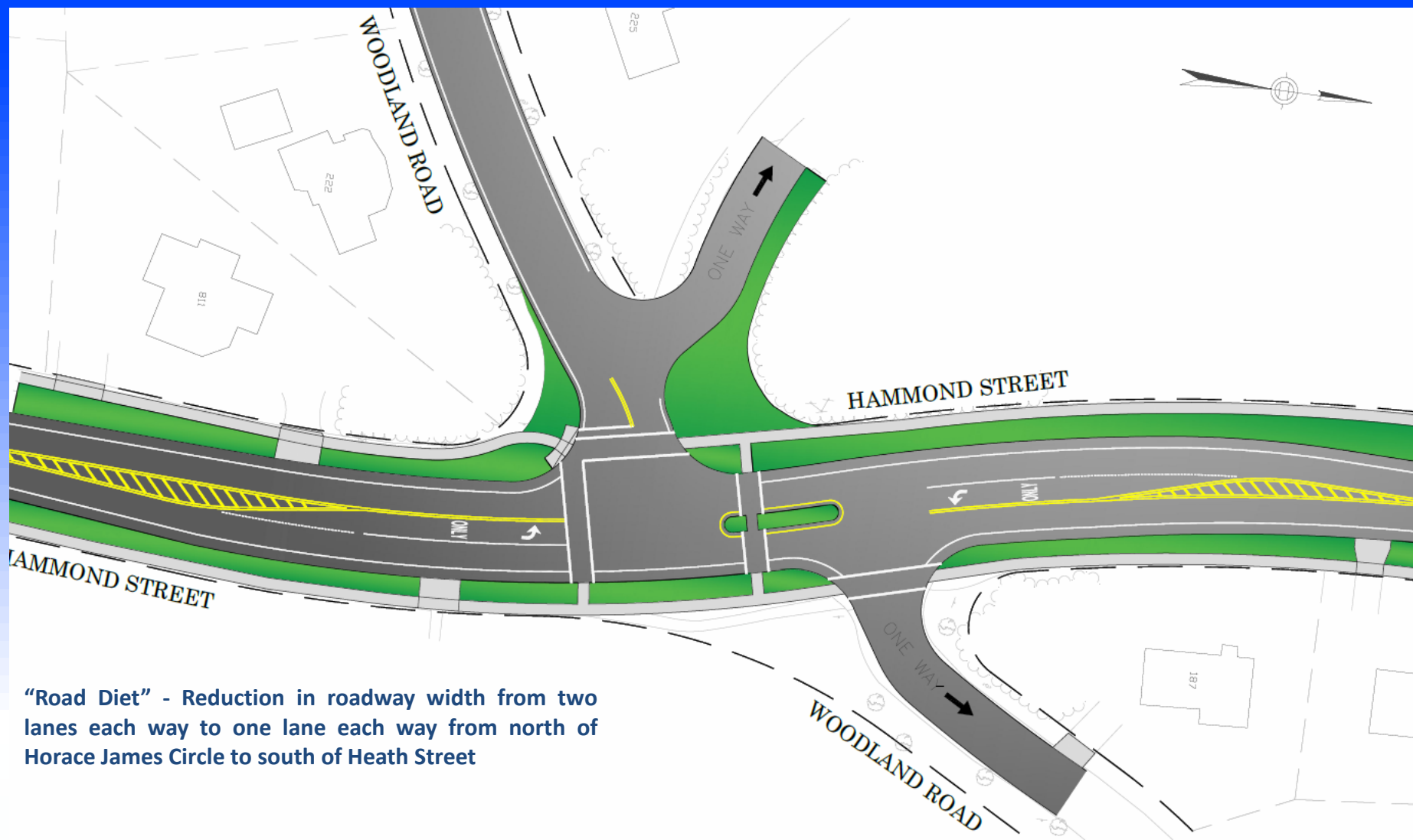
➤ Signalized with geometric improvements



- Improves Sight Distance
- Shortens Crossing Distances
- Additional Crosswalk - Signalized
- Removes school driveway from intersection
- Operational improvement
- No provision for bicycles
- No queue space for school traffic

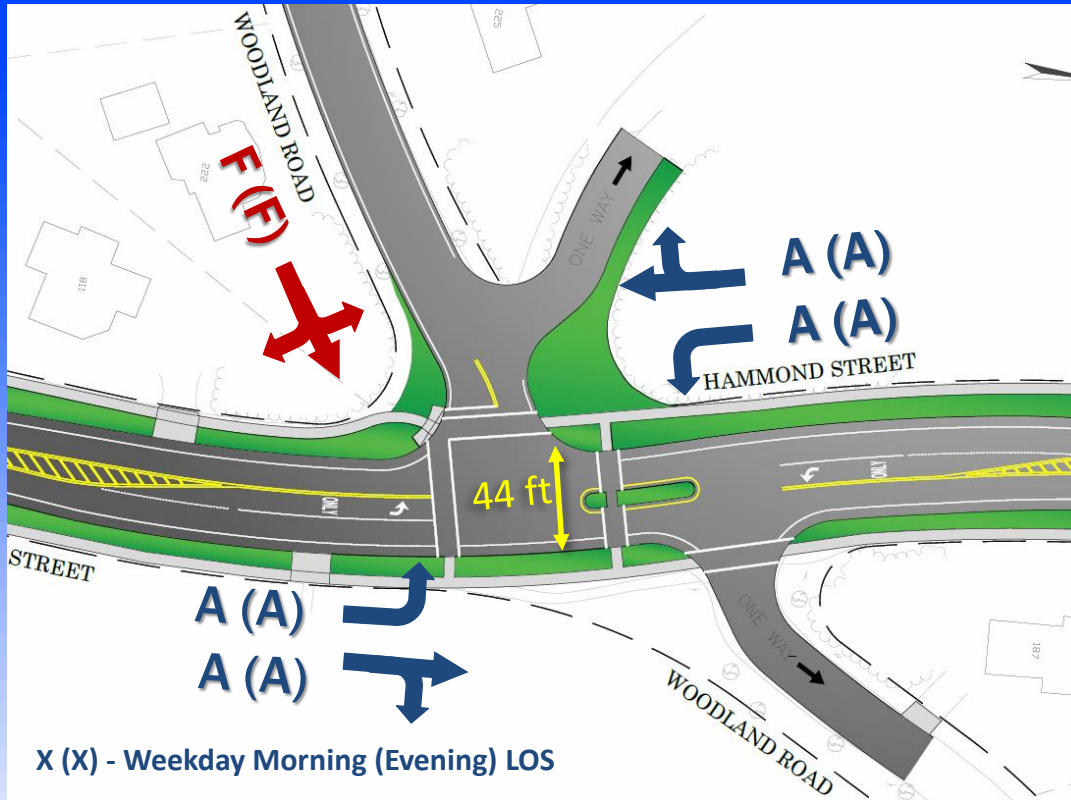
ALTERNATIVES CONSIDERED

➤ Unsignalized with Road Diet



ALTERNATIVES CONSIDERED

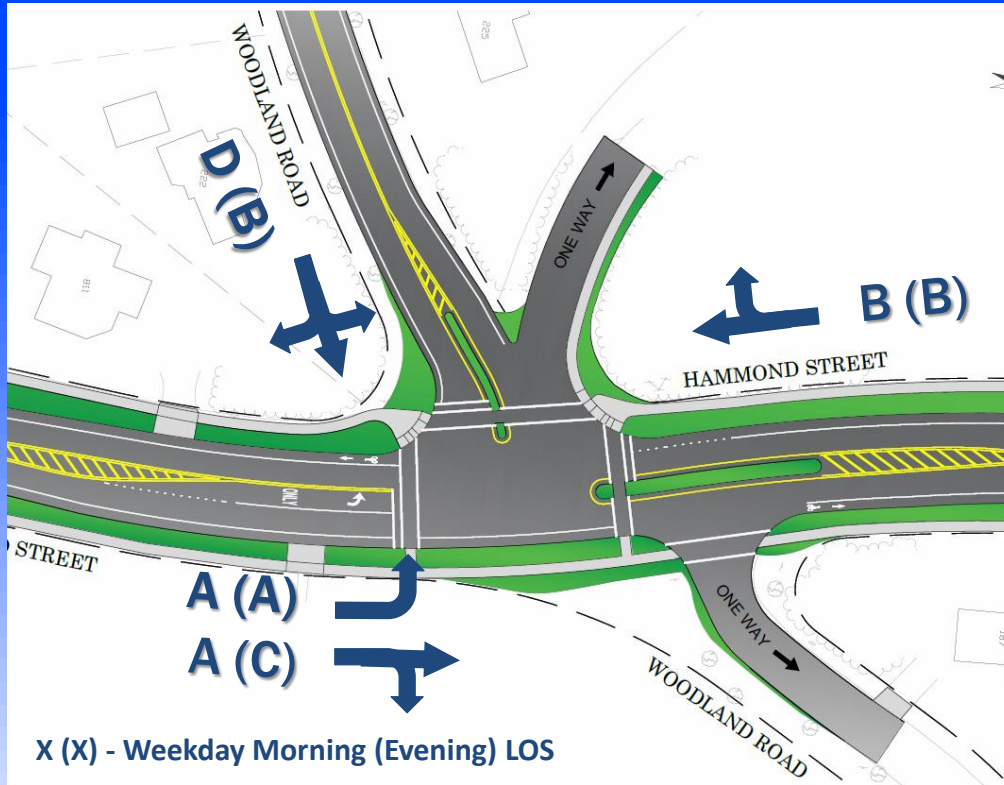
➤ Unsignalized with Road Diet



- Improves Sight Distance
- Shortens Crossing Distances
- Additional Crosswalk
- Removes school driveway from intersection
- Queue space for school traffic
- Provisions for on-street/off-street bicycle accommodation
- **No operational improvement**

ALTERNATIVES CONSIDERED

➤ Signalized with Road Diet



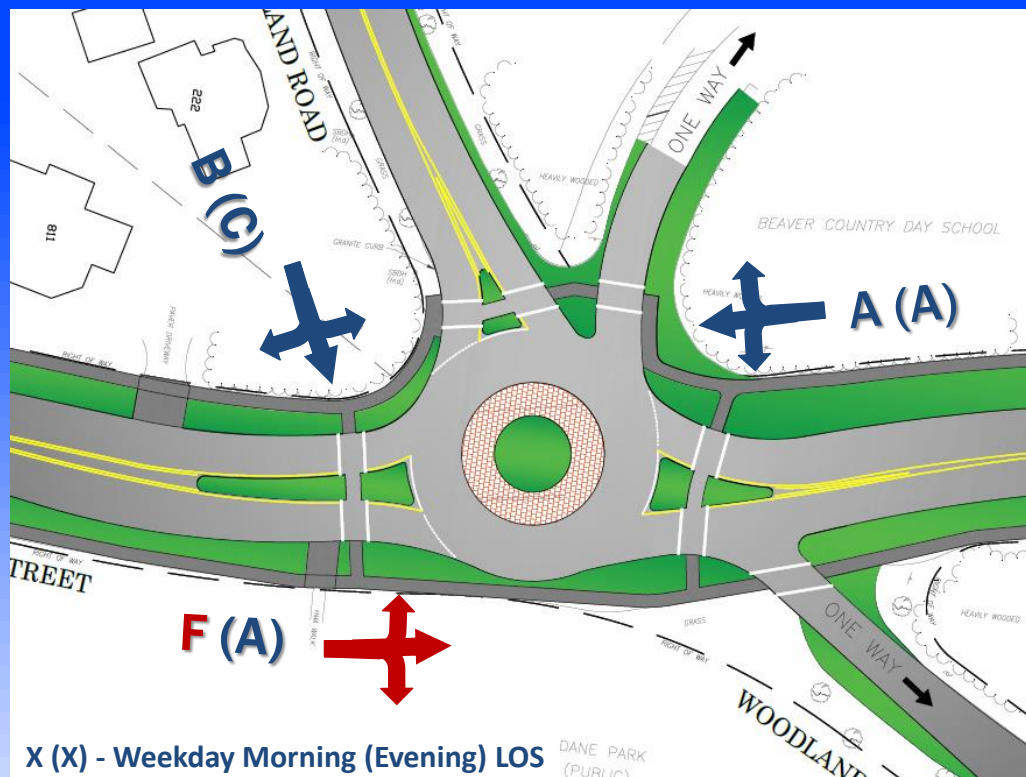
- Improves Sight Distance
- Shortens Crossing Distances
- Additional Crosswalk - Signalized
- Provisions for on-street/off-street bicycle accommodation
- **Operational improvement**
- **Eliminates school entrance traffic from Woodland Road**
- **Queue space on northbound Hammond Street for school traffic**
- **Discourages cut-through traffic on Woodland Road**

➤ Roundabout



ALTERNATIVES CONSIDERED

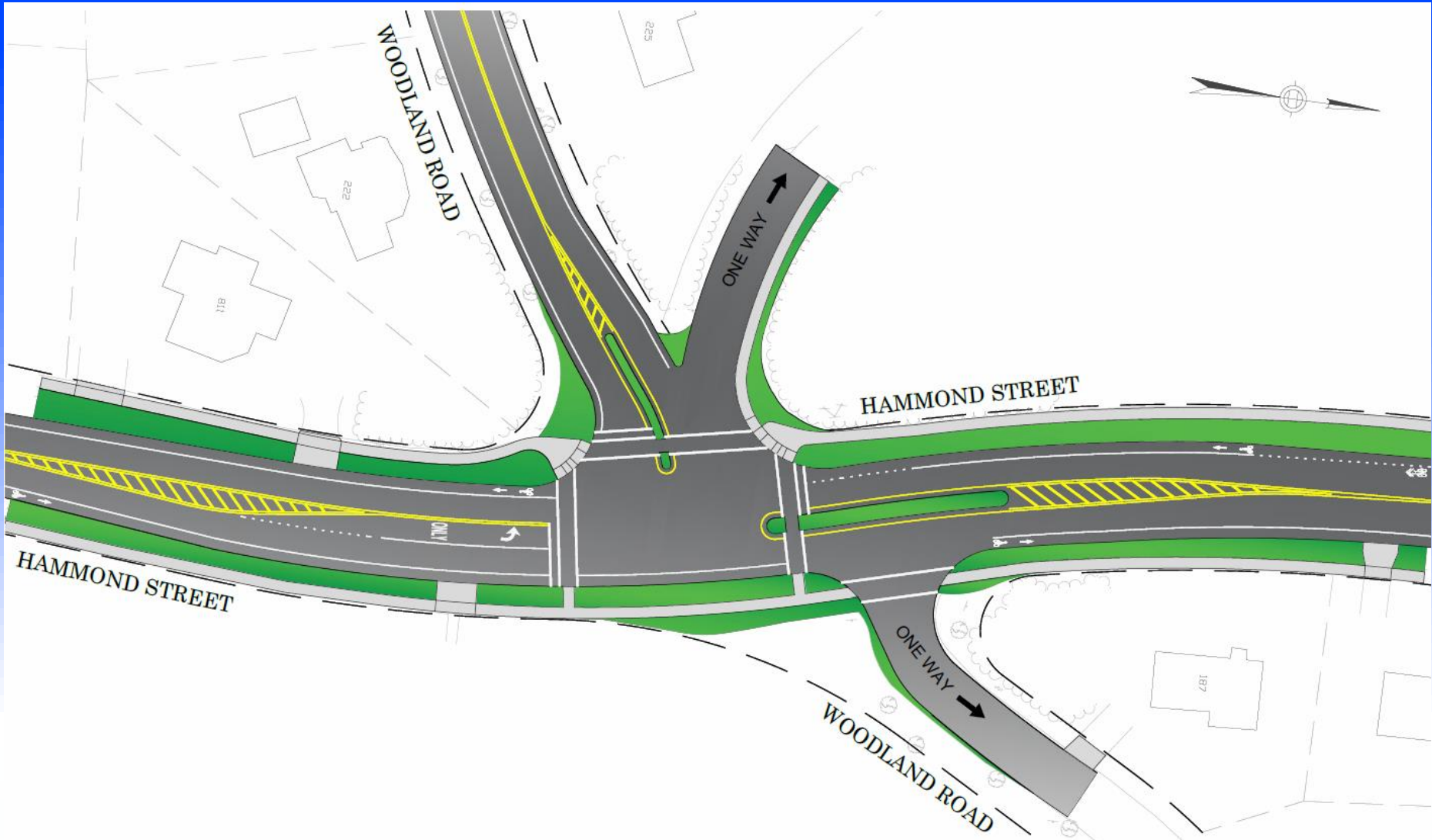
➤ Roundabout



- Improves Sight Distance
- Shortens Crossing Distances
- Additional Crosswalk
- Provisions for off-street bicycle accommodation
- School traffic blocks roundabout in the morning
- No queue space on northbound Hammond Street

PREFERRED ALTERNATIVE

- Signalized with Road Diet



PREFERRED ALTERNATIVE

➤ **Signalized with Road Diet**

- **Northbound widens to two lanes at Heath Street**
- **Southbound widens to two lanes southbound at Horace James Circle**
- **Fully actuated signal with optical emergency vehicle detection**

➤ **Next Steps**

- **Additional analysis**
- **Engineered Design**
- **Funding**
- **Construction**

QUESTIONS?

